

FY-2001 PROPOSED SCOPE OF WORK for:

Project #: 15

Identification and Curation of Larval Fish

Lead Agency: Larval Fish Laboratory, Colorado State University

Submitted by: Darrel E. Snyder, Principal Investigator

Diane L. Miller, Co-Principal Investigator

Kevin R. Bestgen, Co-Principal Investigator

Larval Fish Laboratory

Department of Fishery and Wildlife Biology

Wagar Building, Rm 33

Colorado State University

Fort Collins, Colorado 80523-1474

Phone: (970) 491-5295 (DES, DLM), 491-1848 (KRB)

FAX: (970) 491-5091

DESnyder@cnr.ColoState.edu, Xmoth@lamar.ColoState.edu,

KBestgen@lamar.ColoState.edu,

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Category:

Expected Funding Source:

☒ Ongoing project

☒ Annual funds

☐ Ongoing-revised project

☐ Capital funds

☐ Requested new project

☐ Other (explain)

☐ Unsolicited proposal

I. Title of Proposal:

Identification and Curation of Larval Fish by Colorado State University Larval Fish Laboratory

II. Relationship to RIPRAP:

This project is related to General Recovery Program Support Action Plan V (monitor populations and habitat and conduct research to support recovery actions, research, monitoring, and data management). Identification and processing of ISMP collections helps facilitate Task V.A.1 (measure and document population and habitat parameters to determine status and biological response to recovery actions—conduct standardized monitoring program). The remainder of the project specifically addresses Task V.E (provide for long-term care, cataloging, and accessibility of preserved specimens) and, in that preserved specimens are the ultimate natural history database, Task V.A.2 (. . .—conduct interagency data management program to compile, manage, and maintain all research and monitoring data collected by the Recovery Program).

III. Study Background/Rationale and Hypotheses:

A portion of this project provides Larval Fish Laboratory (LFL) taxonomic services for processing and curating preserved fish collections from the Interagency Standardized Monitoring Program (ISMP, fall young-of-the-year collections). Data are submitted to the source agencies, Colorado Division of Wildlife (CDOW, Grand Junction), Utah Division of Wildlife Resources (UDWR, Moab), and U. S. Fish and

Wildlife Service (USFWS, Grand Junction) for inclusion in Recovery Programs reports on results of the monitoring effort.

The remainder provides for ongoing curation (maintenance and management) of the growing Upper Colorado River Basin (UCRB) portion of the LFL Collection and completion of work on backlog collections. LFL now holds an estimated 3.8 million specimens in over 75,000 taxon-specific lots from the UCRB as voucher for the Recovery Implementation Program (RIP) and earlier UCRB investigations. These collections are an invaluable long-term historical resource for future reference and research. Some collections are nearly a quarter century old, dating back to 1976.

Completion of work on backlog collections has again been delayed by allocation of fewer funds than requested in FY 2000. Cataloguing of UCRB specimens as part of the LFL Collection was begun in 1992 under RIP Project 20 and continued in FY 1997 as part of Project 15. As of mid-April 2000, all but about 9,000 pre-1994 lots of UCRB specimens have been cataloged. Work on a third to half of these backlog collections should be completed in what remains of FY 2000; the remainder will await FY 2001. Until these backlog collections are properly cataloged, labeled, upgraded (new preservative and containers, as necessary), and serially shelved, they remain minimally maintained and relatively inaccessible. UCRB specimens taken since 1994 have been cataloged as part of collection processing (identification, counts, and measurements). As we complete cataloging of backlog collections and the holdings of the LFL Collection become better known, we expect use of UCRB collections will increase substantially, both within and outside RIP.

As part of the curatorial portion of this project, we continue to pursue arrangements to help ensure collection permanency. In part through the efforts of the principal investigator for this project, preliminary plans are underway to administratively and physically consolidate most of the university's various natural history research collections (including the LFL Collection) to provide better long-term recognition, support, and facilities as a functional unit of Colorado State University.

IV. Study Goals, Objectives, End Product:

The project goal is to provide taxonomic and curatorial services for RIP. Specific objectives for FY 2001 are to:

- (1) Support other RIP researchers by processing, cataloging, and curating preserved fish from collections submitted to LFL under this project;
- (2) Complete work on remaining UCRB backlog in the LFL Collection; and
- (3) Continue curation (maintenance and management) of all cataloged UCRB specimens in the LFL Collection.

The end products for FY 2001 will be:

- (1) Computer database files and printed report(s) of collection contents for RIP researchers submitting collection for processing; and
- (2) A fully cataloged, well-documented, and well-curated collection of preserved fish maintained as voucher for RIP investigations and a long-term RIP and public resource for further reference and research.

V. Study Area:

The RIP collections identified, processed, and curated by LFL were or will be collected from cool to warm-water reaches throughout the Upper Colorado River Basin, exclusive of the San Juan River subbasin.

VI. Study Methods/Approach:

Collection Processing—We will identify, count, measure, catalog, and curate preserved specimens (mostly larval and juvenile fish) from fall 2000 ISMP collections seined from the Colorado River by the Colorado Division of Wildlife (Grand Junction) and from the Colorado and Green Rivers by the Utah Division of Wildlife Resources (Moab). Identification of is based on taxonomic keys, criteria developed by LFL, and the expertise of LFL personnel. Specimen data include total counts by species, 10-mm length frequencies, individual lengths for endangered species and other *Gila*, and dorsal and anal principal fin ray counts for *Gila* species. Data are entered in computer database files (dBase or Access) and results are detailed and summarized in printed data reports for the source agencies. The database files are also submitted to RIP's Interagency Data Management Program (IDMP) to complement related files subsequently deposited by the source agencies. As part of processing, the collections are cataloged, given standard collection labels, and organized on LFL Collection shelving.

Backlog Cataloging—We will attempt to conclude a now five-year effort to catalog and relabel remaining UCRB backlog collections, replace their containers and preservative as necessary, and reorganize them on collection shelving for ready access. Once all backlog collections are cataloged, the printed version of the LFL Collection catalog will be updated.

Ongoing Curation—The LFL Collection will continue to serve as the depository for small fish from preserved RIP Collections. Methods for receiving, accessioning, cataloging, maintaining, and managing use of these preserved specimens are provided in our draft "Larval Fish Laboratory Collection Policies and Procedures Manual" (Appendix II, Snyder 1996). We will respond to internal and external requests for collection information and use of specimens; RIP approval will be required for any destructive use or transfer of endangered or rare species. The current cataloging computer (recently upgraded with an older Pentium unit courtesy of the USFWS) and laser printer will be replaced with new units to avoid age-related failure and better handle our version of the new NSF-sponsored collection cataloging and management program, SPECIFY. We will continue our effort to ensure collection permanency, in part through planned consolidation of Colorado State University natural history research collections.

VII. Task Description and Schedule:

Collection Processing—Fall-Winter 2000-2001; as soon as possible after receipt of fall 2000 ISMP collections.

Backlog Cataloging—Throughout the fiscal year.

Ongoing Curation—Throughout the fiscal year.

VIII. FY-2001 Work:

- Deliverables/Due Dates: LFL will prepare and submit collection database files (dBase or Access) files and a printed data report for fall 2000 ISMP collections to the Colorado Division of Wildlife in Grand Junction, Utah Division of Wildlife Resources in Moab, and U. S. Fish and Wildlife Service in Grand Junction.

Database files will also be deposited with the IDMP. Updates of the dBase file version of the LFL Collection Catalog (as either a dBase or Access file) and the printed collection catalog will be submitted to IDMP by or shortly after the end of FY 2001. The Annual Project Report will be submitted to RIP by or shortly after the end of FY 2001.

- Budget:		Collection Processing*	Backlog Cataloging	Ongoing Curation	Total
-	Labor	\$7,001	\$8,254	\$19,585	\$34,840
-	Travel			1,000	1,000
-	Equipment**			3,000	3,000
-	Other	1,359	413	1,862	3,634
-	Total (Direct Costs)	8,360	8,667	25,447	42,474
	Indirect Cost (15% TDC)***	1,254	1,300	3,817	6,371
	Total Direct & Indirect Costs	9,614	9,967	29,264	48,845

* Based on a modification of LFL's standard taxonomic services rate schedule and the average number and size of fall ISMP collections received in recent years (62 collections, 324 specimens per collection in 1998; 55 collections, 246 specimens per collection in 1999).

** Replacement of old cataloging computer and laser printer.

*** Assumes MOU in which the University covers the remainder of standard 45% indirect cost rate.

FY-2002 Work (for multi-year study)

- Deliverables/Due Dates: As for FY 2001 but one year later.
- Budget Estimate: \$33,400

FY-2003, etc. (for multi-year study)

- Deliverables/Due Dates: As for FY 2001 but two years later, etc.
- Budget Estimate: \$35,100; plus 5% for each subsequent year.

IX. Budget Summary:

FY-2001	\$48,845
FY-2002	\$33,400 (estimate)
FY-2003	\$35,100 (estimate)
Total:	\$117,345 (3-yr estimate)

X. Reviewers: None

XI. References:

Snyder, D. E. 1996. Preserved larval and small-fish collections of the Upper Colorado River Basin: maintenance and cataloging of a valuable historical database. Final Report of the Larval Fish Laboratory, Colorado State University, to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin, U.S. Fish and Wildlife Service, Denver, Colorado. (24 April 1996).